

REMARKS

Reconsideration of the application is requested.

Claims 12-20 and 23-25 remain in the application. Claims 12-20 and 23-25 are subject to examination. Claim 24 has been amended.

Under the heading “Claim Rejections – 35 USC § 102” on page 3 of the above-identified Office Action, claim 24 has been rejected as being fully anticipated by U.S. Patent No. 6,745,008 B1 to Carrender et al. under 35 U.S.C. § 102.

Claim 24 has been amended. Support for the changes can be found by referring to the application at page 13, lines 10-33 and to Fig. 5, for example.

Claim 24 now includes steps of, inter alia:

modulating a reflector of the transponder with the first alternating quantity, and

modulating another reflector of the transponder with the second alternating quantity.

In contrast to the invention as defined by claim 24, all of the transponders or tags 14, 16, 18 taught by Carrender et al. have only a single antenna 26. Carrender et al. do not anticipate the invention as defined by claim 24.

Under the heading “Claim Rejections – 35 USC § 103” on page 3 of the above-identified Office Action, claims 12-20 and 23 have been rejected as being obvious over U.S. Patent No. 5,606,323 to Heinrich et al. in view of U.S. Patent No. 6,438,193 to Ko et al. under 35 U.S.C. § 103. Applicant respectfully traverses.

First, applicant notes that claim 12 specifies: subsequent to the splitting, the first alternating quantity and the second alternating quantity being separately and differently influencable by a measured quantity.

The Examiner has recognized that Heinrich et al. do not teach or suggest the features of claim 12 that have been copied above.

Contrary to the assertion of the Examiner, Ko et al. also do not teach or suggest the listed features of claim 12 and therefore, even if there were a suggestion to combine the references, for some reason, the claimed invention would not have been obtained.

In the outstanding final Office action, the Examiner referenced column 8, lines 31-37 of Ko et al. That portion of the reference teaches that every revolution of the tire 304 flexes the piezo element 340, and the piezo element 340 produces an energy pulse in response to the flexing. The energy pulse is simultaneously used to power the revolution counting circuit module 330 and to provide a pulse to be counted.

There is only one alternating quantity and that is the energy pulse. The energy pulse also happens to represent the measured quantity, which is the number of revolutions of the tire. The energy pulse and the alternating quantity, which are the same signal, are both influenced in the same manner by the measured quantity, which is the number of rotations. There is not a first alternating quantity and a second alternating quantity that are separately and differently influencable by a measured quantity.

In regard to cancelled claim 22, on page 4 of the prior Office action mailed on July 10, 2007, the Examiner alleged that the alternating quantity produced by the piezo element 340 is split into a first alternating quantity for powering the circuit module 330 or 430 and a second alternating quantity in the form of a pulse for counting the revolutions. The Examiner additionally referred to column 4, line 55 through column 9, line 15 and Fig. 4 in support thereof.

The sole alternating quantity from the piezo element 340 is supplied to power circuitry 450 and to a signal processing element 460. The power circuitry 450 provides a stable DC voltage and the signal processing element 460 simply conditions the pulses from the piezo element 340 so that the pulses can be counted by a counter 470. The Examiner has alleged that the power circuitry 450 provides a first alternating quantity and that the signal-processing element 460 produces a second alternating quantity in the form of a pulse that can be used to count the revolutions.

Please note that the signals, which the Examiner has labeled as a first alternating quantity and a second alternating quantity are not separately and differently influencable by a measured quantity. The so-called first alternating quantity and second alternating quantity are both influenced in the same manner by the measured quantity, which is the number of rotations. They are not differently influenced. Therefore, even if there were a suggestion to combine the references, for some reason, the claimed invention would not have been obtained.

Second, applicant notes that Heinrich et al. teach an RF transponder 11 that obtains RF energy from a base station via an RF wave 7 sent from the base station 2 to the antenna 10 of the RF transponder 11 (See Figs. 1 and 2 and column 3, lines 18-24). In contrast to Heinrich et al., Ko et al. do not teach a transponder, but rather teach a revolution counting circuit module 330 and 430 (See column 8, lines 1-3 and 58-62). The energy pulse from the piezo element 340 powers the revolution counting circuit module 330 and 430, but there is no teaching or suggestion for using the energy pulse from the piezo element 340 in order to power the optional transponder 406. The power circuitry 450 shown in Fig. 4 supplies  $V_{dd}$  to components 466, 470, 480, and 490, but there is no power line being supplied to the optional transponder 406. Only the I/O pin 432 from the microcontroller MCU may be connected to the optional transponder 406 so that the transponder 406 may obtain a serial binary code indicating the

count from the microcontroller MCU and transmit the count to an external reader by RF telemetry (See column 19, lines 50-57).

Therefore, if one of ordinary skill in the art were to consider the teachings in Heinrich et al. and Ko et al., perhaps one might obtain a suggestion to use the RF transponder 11 taught by Heinrich et al. to transmit the count from the revolution counting circuit module 330, 430 taught by Ko et al. However, since Ko et al. do not teach powering a transponder with the piezo element, there is simply no teaching that would motivate one of ordinary skill in the art to modify the RF transponder 11 taught by Heinrich et al. in a manner such that the transponder is powered by a piezo element rather than from the RF signal received from the base station.

The invention as defined by claim 12 is not taught or suggested by considering the teachings in Heinrich et al. and Ko et al.

Under the heading “Claim Rejections – 35 USC § 103” on page 5 of the above-identified Office Action, claim 25 has been rejected as being obvious over U.S. Patent No. 6,745,008 B1 to Carrender et al. in view of U.S. Patent No. 6,417,766 to Starkey under 35 U.S.C. § 103. Applicant respectfully traverses.

Claim 25 defines a transponder that includes a first reflector modulated with the first alternating quantity; and a second reflector modulated with the second alternating quantity.

All of the tags or transponders taught by Carrender et al. include only a single antenna 26 (See Figs. 3A, 3B, 4, 5A, and 5B and note that Figs 6 and 7 are readers not transponders). Therefore even if one did somehow incorporate a filter, the claimed invention would not have been obtained.

Additionally, Starkey teach using a filter in the receiver, not in the transponder, in order to demodulate the signal being received from the transponder.

Starkey do not teach using a first filter for splitting the original alternating quantity into a first alternating quantity influenced by a measured quantity, and using a second filter for splitting the original alternating quantity into a second alternating quantity influenced by the measured quantity separately and differently from the first alternating quantity.

One of ordinary skill in the art considering Carrender et al. and Starkey would not have obtained a suggestion leading to the invention as defined by claim 25.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 12, 24, or 25. Claims 12, 24, and 25 are, therefore, believed to be patentable over

the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 12.

In view of the foregoing, reconsideration and allowance of claims 12-20 and 23-25 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,

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